Advanced Pi-Space

Velocity As A Compression Wave

Discussion and Practical Examples

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Overview

In order to follow this document, it is recommended that one understands Velocity as defined by the Pi-Space Theory and one should read the Introduction to Pi-Space. The reference document discusses the concept of the Pi-Shell and the notation. In this document I will discuss the different types of motion in terms of a compression wave which moves through either solid of fluid structures and explain the origins of the Compression Wave and how it maps to the Pi-Shell notation.

The Compression Wave Producing Movement

In Pi-Space velocity is modelled as a Pi-Shell which shrinks. The notation models an atom or some group of atoms as a Pi-Shell where there is compression using the diameter line notation. In the document I will cover what this compression is and where does it come from and the typical examples we have in our world.

Solid Object Capturing Compression Waves Versus Fluids

In this theory, we model Compression as a Compression wave. It can move from Atom to Atom or through a fluid. **In solid objects we model compression waves as having been captured by the atoms and the compression waves remain in this structure.** This then equates to Diameter Lines. For example a moving object like a car or a plane have captured compression waves. A small fraction of them are transferred to the fluid like air around them but for the most part the compression waves stay inside the structure and are distributed though the atoms or Pi-Shells.

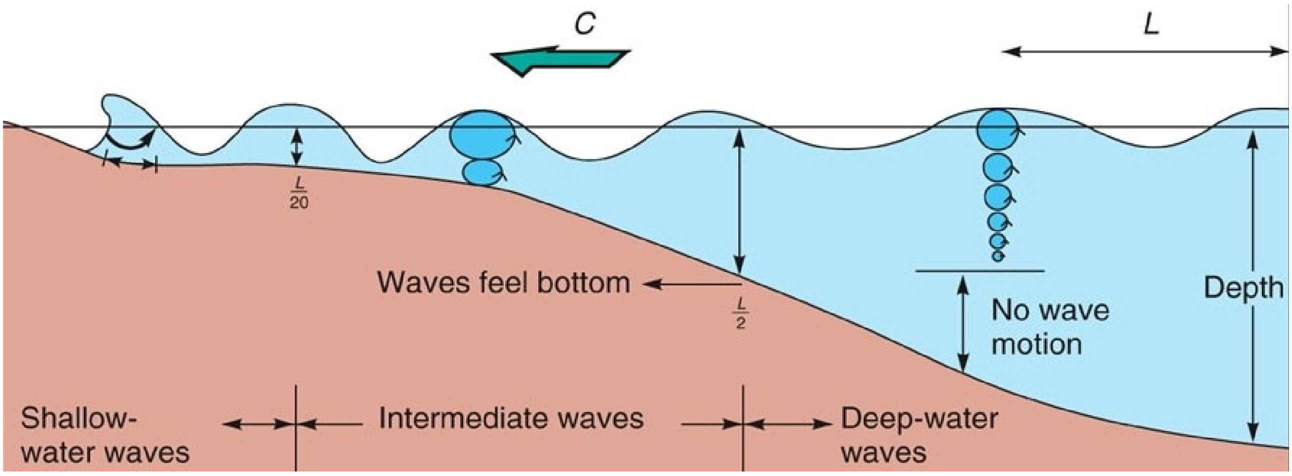
Moving plane

Any kind of moving solid object contains these Compression Waves which are modeled as diameter lines.

In the case of a fluid when it is disturbed by a force like an underwater Earthquake, the compression waves move against a fluid and we get a Tsunami. Therefore the Compression Waves are not constrained by a solid object and move dynamically through the liquid sea in this case. Out at sea they move in a determined direction and near shore they clump together with higher amplitude and form waves.

Here we see compression waves combining near the shore line.,

Also



Objects Moving Through Space And Newton's First Law of Motion

The Newtonian laws tell us that an object likes to keep going in the same direction. Specifically the law is:

I. Every object in a state of uniform motion tends to remain in that state of motion unless an external force is applied to it.

If we convert this concept into a Pi-Space concept, then every Pi-Shell continues in the state of motion defined by its compression waves unless an external force is applied to it.

Logically then the Compression Wave is a local wave within the Pi-Shell and determines the velocity of the Pi-Shell (apart from external forces).

Creating Compression Waves And Newton's Third Law

If we want to create a compression wave and move an object in a particular direction we need to create one in the opposite direction.

Newton's Third Law of Motion covers this:

III. For every action there is an equal and opposite reaction.

Converting this to Pi-Space, for every compression wave on a Pi-Shell there is an equal and opposite compression wave.

Therefore it we apply this idea to real world examples, we can see a rocket lift off a platform, in this case the downward compression waves at the base of the rocket match the upward compression waves inside the fuel tank.

Factoring In Mass To The Compression Wave

It's harder to apply a compression wave to one atom than another depending on the mass of said atom. Therefore compressing a lighter object is easier than a heavier one.

F=ma

m1a1 = m2a2

So pushing a boulder up a hill is harder than a football.

Here we try to generate enough compression waves to push the boulder up the hill which we know is not easy. This is Newtonian force which equates to an area change of the atoms in the object.

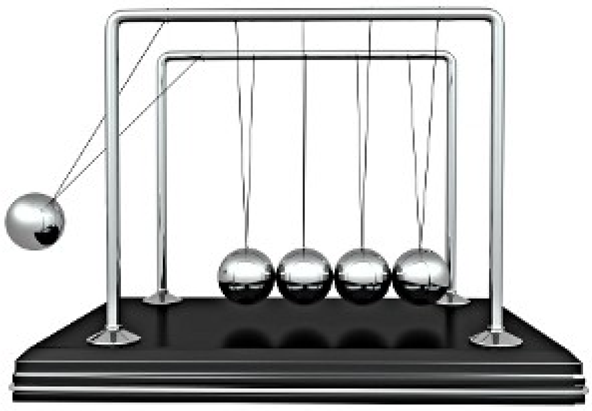
The more mass, the more Compression waves.

Objects Colliding Head On

Two cars colliding head on the Compression Waves moved forward from each car. A to B and B to A. Therefore the occupants are thrown forward by the compression waves and then backward by the other cars compression waves.

Symmetric Objects Transferring Compression Waves

Symmetric balls pass compression waves through a solid structure almost like it is a fluid from one side to another. Therefore we can see that compression waves can flow through solid structures even through we cannot see them but it is happening.



Newton's Cradle demonstrates this. This covers the conservation of energy, momentum and friction to name but a few. The Compression waves flow from one side to another. Their total diameter lines remain constant so energy is conserved. Recall in Pi-Space that energy is Pi-Shell area change.

Acceleration Compression Waves move backward, Deceleration Compression Waves Move Forward

When an object slows down the compression waves move forward so we fall forward

When an object speeds up the compression waves move back so we fall back

This happens in all kinds of moving object like cars and planes in our every day experience.

Car seat is thrown forward when the vehicle decelerates.

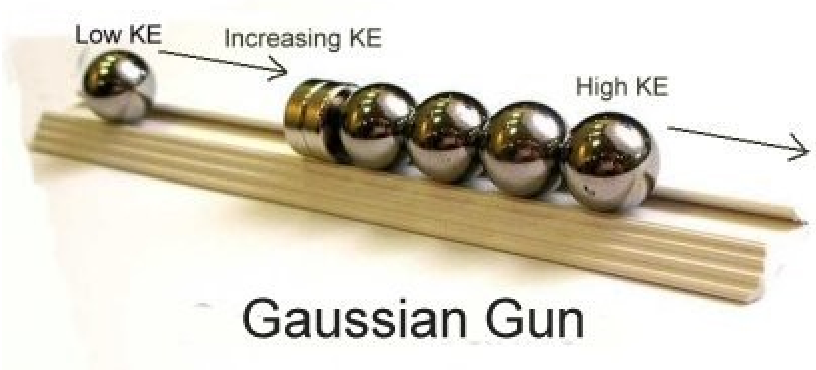
A Whip Manipulating Compression Waves

We can use a whip to transfer compression waves to the end of the whip. They combine velocity and vector component.

By pushing/combining the Compression Waves to the end of whip on a moving wave it can reach supersonic speeds. This is a little bit like a field effect obtained in a solid object.

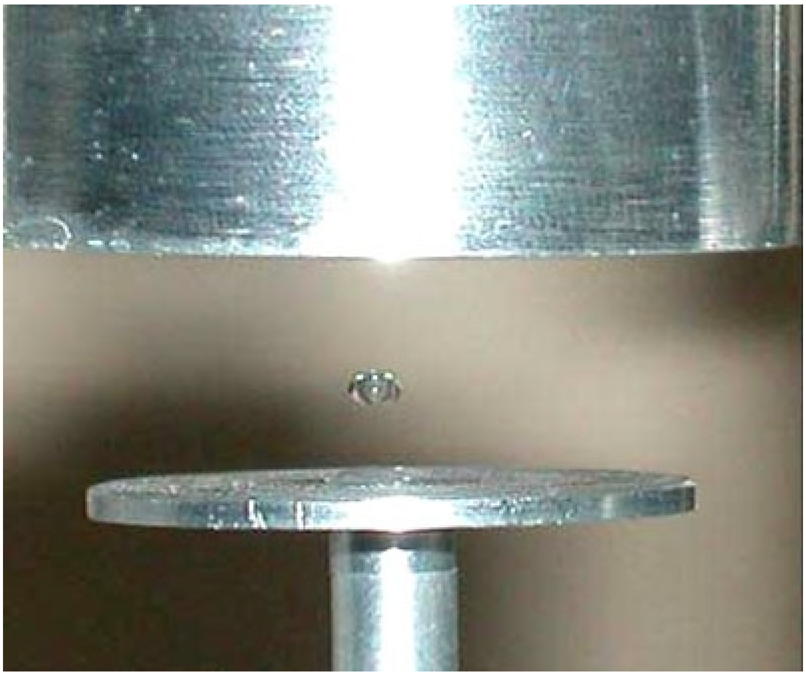
Gaussian Acceleration

The Gaussian Gun uses the magnetic field effect to compress the Compression Wave to increase velocity and kinetic energy. The Compression Wave passes through the magnet and ball bearings on the right and the magnetic field lines compress the Compression Waves. We use a field effect to magnify the Compression Wave.



Movement with Sound Waves

A sound wave is an oscillation of the structure of objects. They spread out in three dimensions and cause compression of atoms in their path. A standing wave for example can suspend an object in mid-air by creating path of least time around it over-riding gravity. The Sound wave compresses the atoms around the object one wants to levitate. Pressure is an area change as I've shown.



Explosive Shock waves

Shock waves are compression waves but they do not oscillate. They moved in a linear fashion from the center of the explosive location. When they pass through the house in the case of a Nuclear explosion it moves with the Compression waves and the house disintegrates.

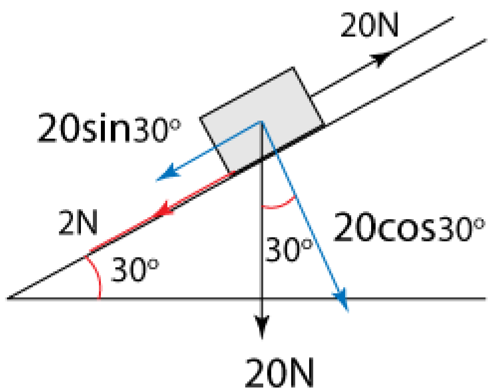
Particle Accelerator

A magnetic field causes a particle to move in a particular direction inducing a compression wave inside it. Using this field effect the particle continues to shrink according to the theory and reaches near light speed.

Compression Wave Colliding At Angles

When compression wave interact, the rules of exchange are based on trigonometric rules of cos and sine for the most part. Newton defined these.

This diagram covers Compression wave interaction at an angle.



Inertial Frame And Even Distribution of Compression Waves

When an object travels at a constant velocity the compression waves are distributed evenly through out a structure. This is an Inertial Frame of Reference.

When an object accelerates or decelerates then it is a non-Inertial frame of reference. The Compression waves are not equally distributed inside the object.

Momentum Exchange As A Wave Within A Wave And Conservation

Here I will show how we can model Conservation of Momentum in Pi-Space using a wave within notation. The N(cw) stands for Compression Wave. The Ncw(0) is the compression wave which is passed from one Pi-Shell or atom[s] to another and produces the Velocity. The Ncw(1) is mass wave component. The idea is that each atom has a specific compression wave patttern that it accepts and this can be represented by Newton's Conservation of Momentum law.

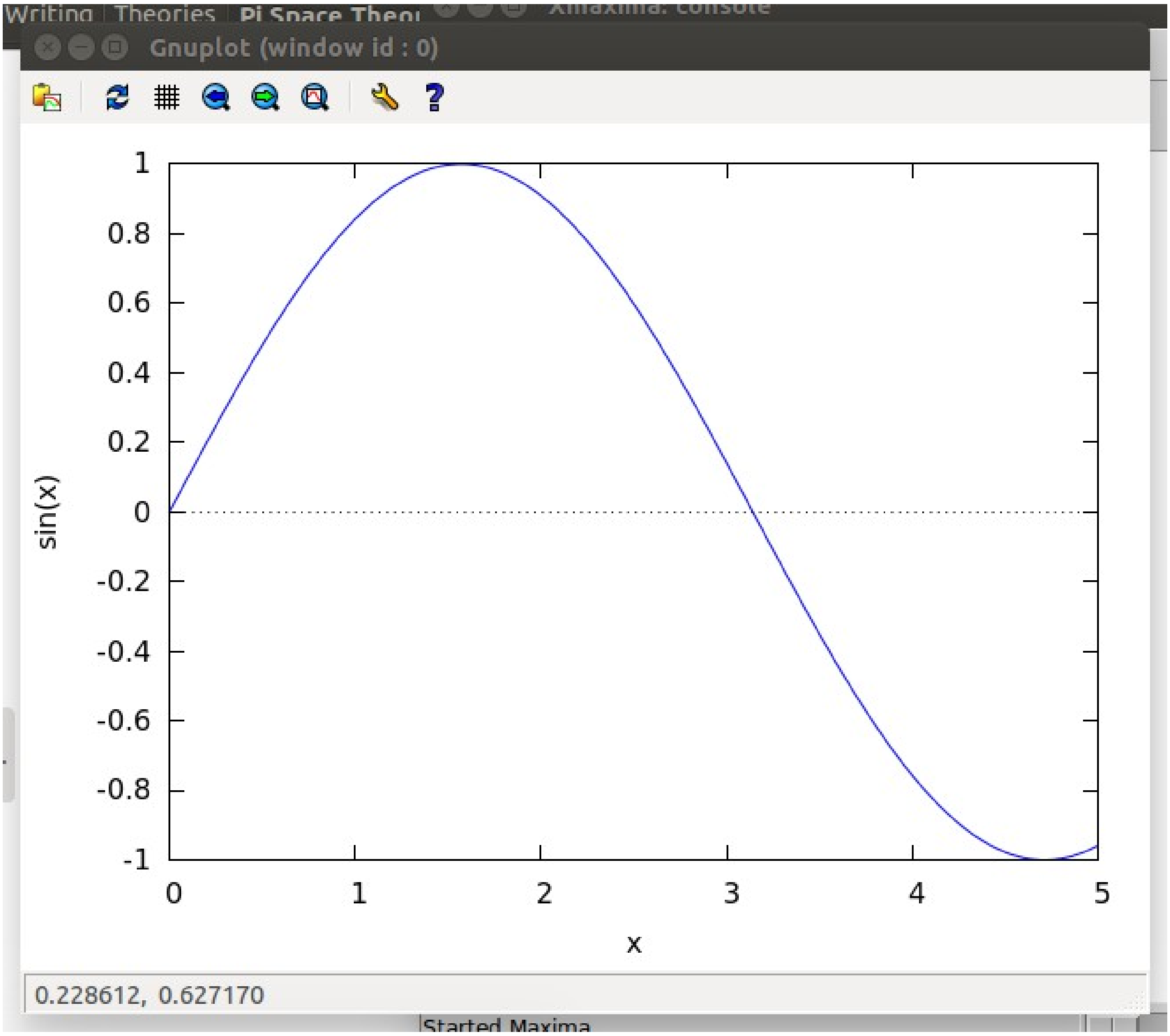
We assume transfer compression waves between atoms/pi-shells. Notional 5/c speed. Notional total mass of 10 units relating to the object doing the colliding. This is arbitrary.

M1.V1 = M2.V2

Let's first model Ncw(0) with velocity 5.0.

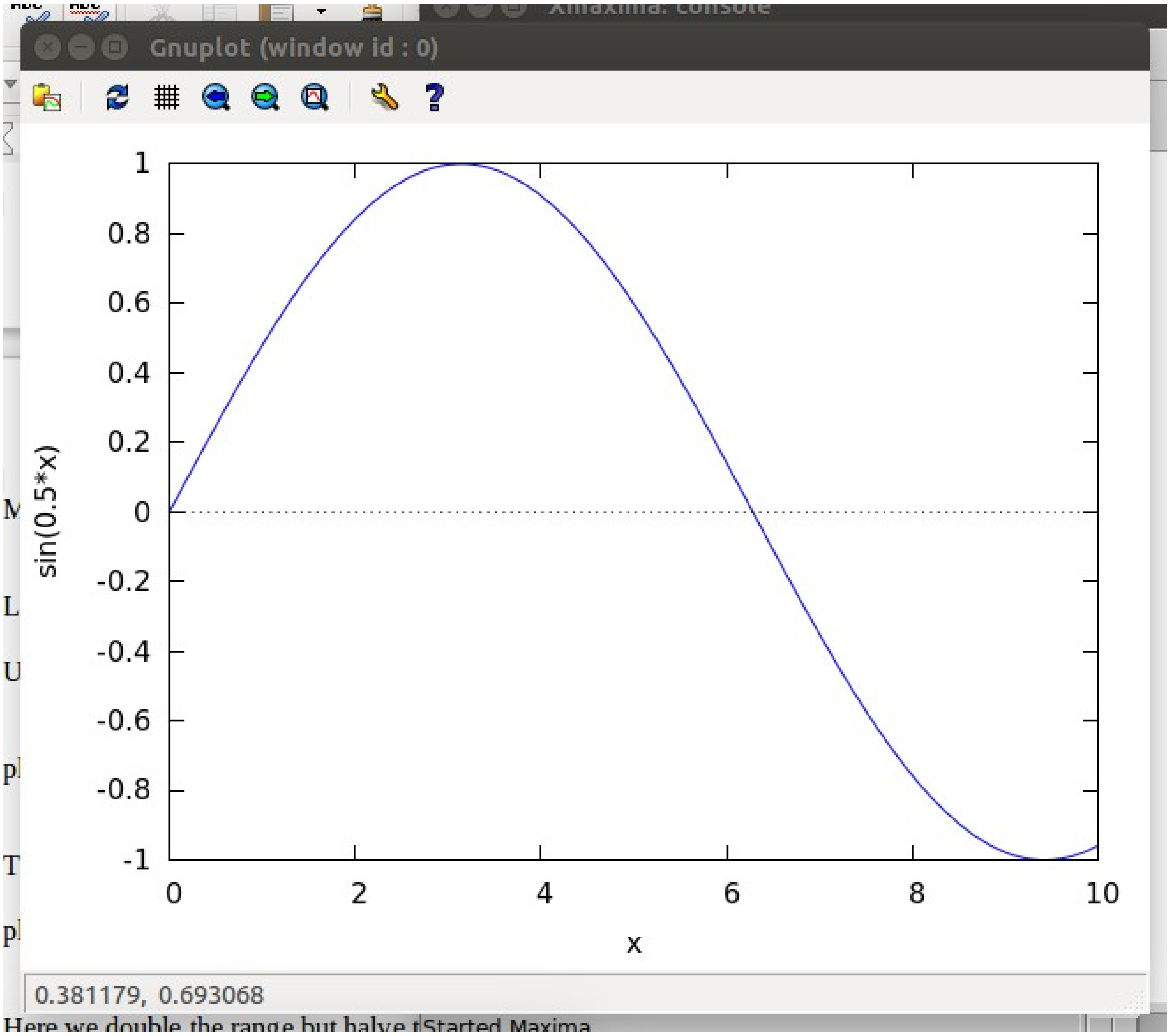
Using Maxima Algebra Notation

plot2d(sin(x),[x,0.0,5.0]);



This is the same as

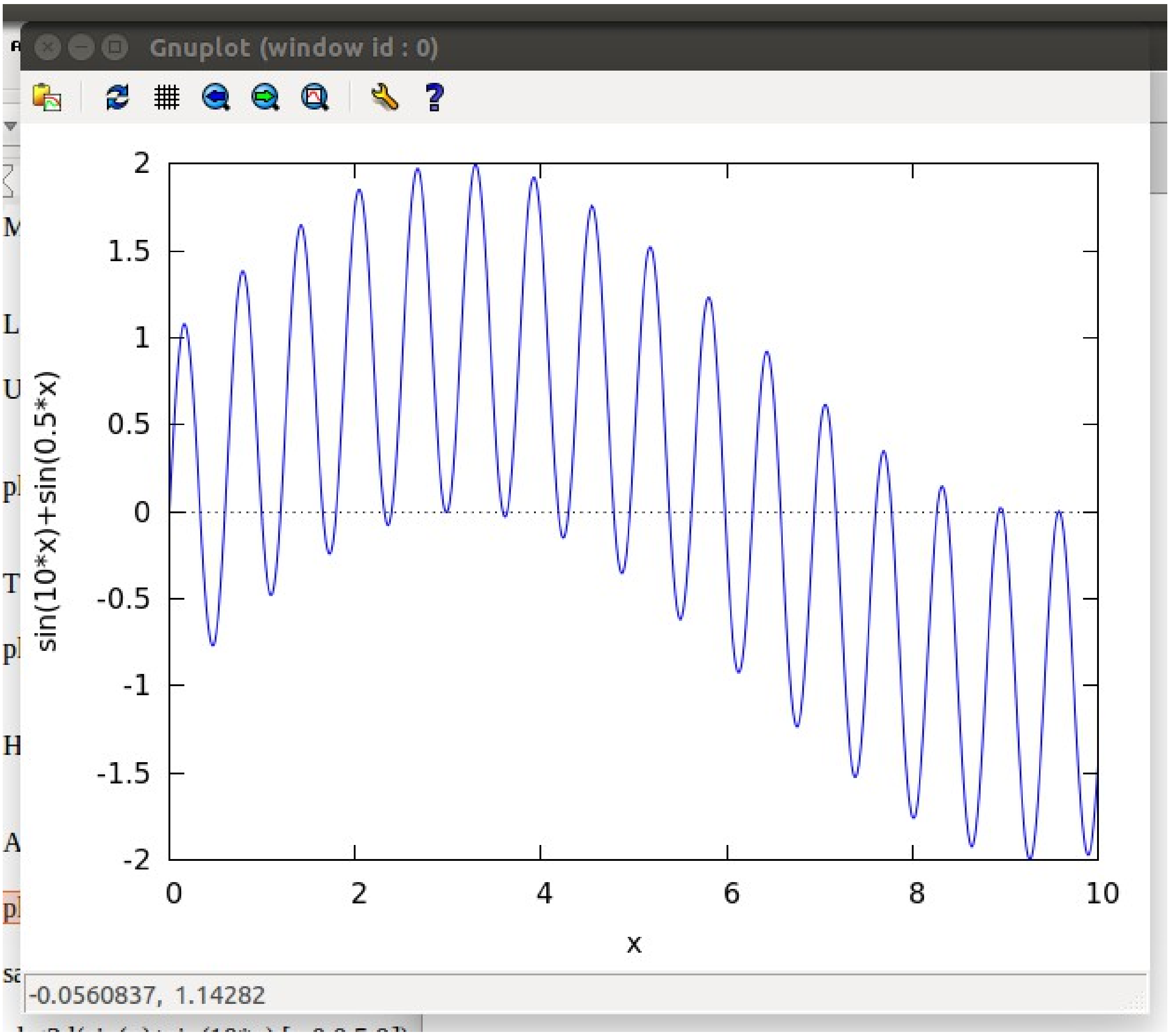
plot2d(sin(0.5*x),[x,0.0,10.0]);



Here we double the range but halve the wave.

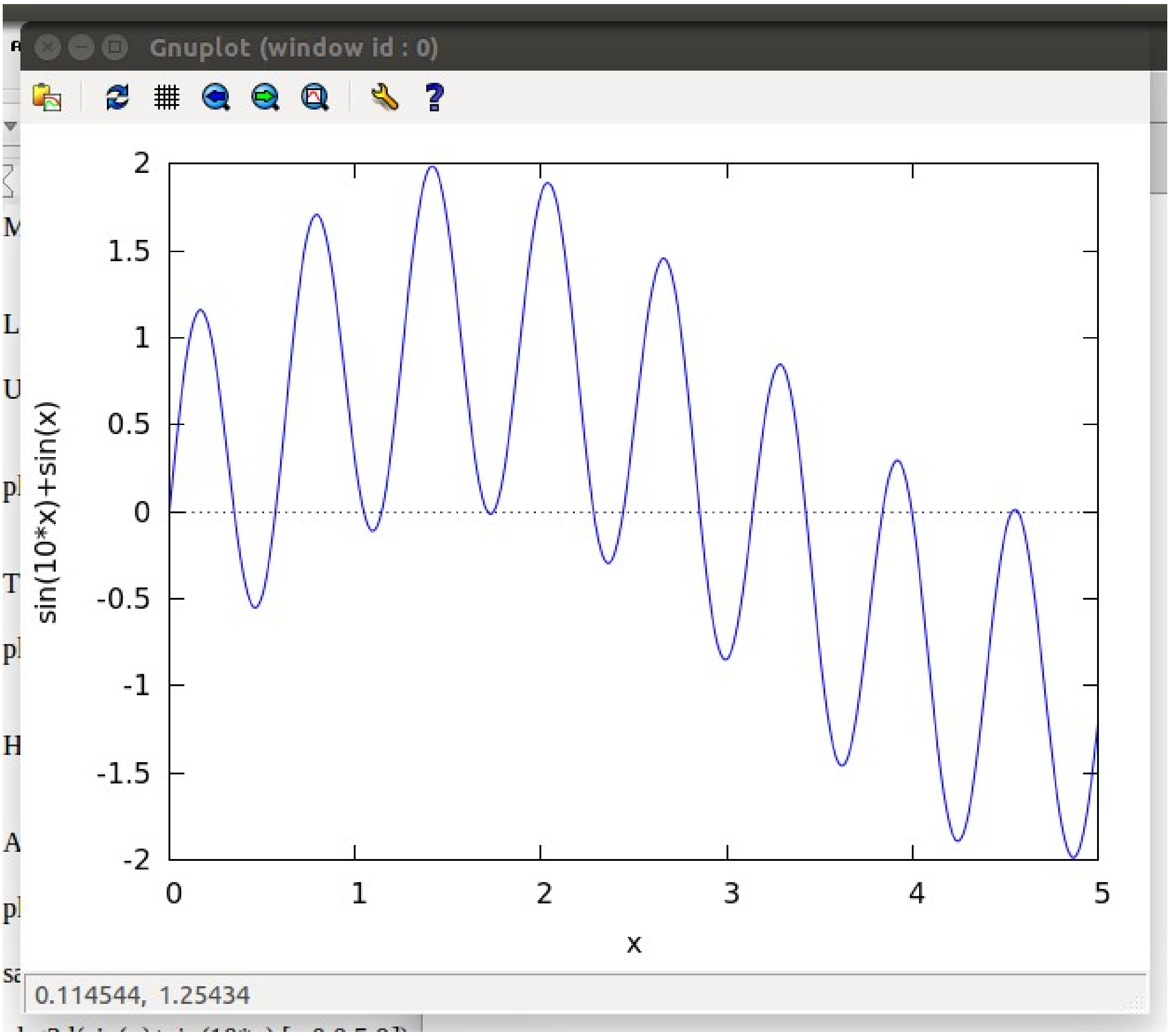
Add mass to represent Ncw(1)

plot2d(sin(0.5*x)+sin(10*x),[x,0.0,10.0]);



same as (conservation)

plot2d(sin(x)+sin(10*x),[x,0.0,5.0]);



We can apply this to Newton's Conservation of Momentum.

So hydrogen->hydrogen = same wave size 5*1 (mass 1:1)

Velocity is 5/c after collision.

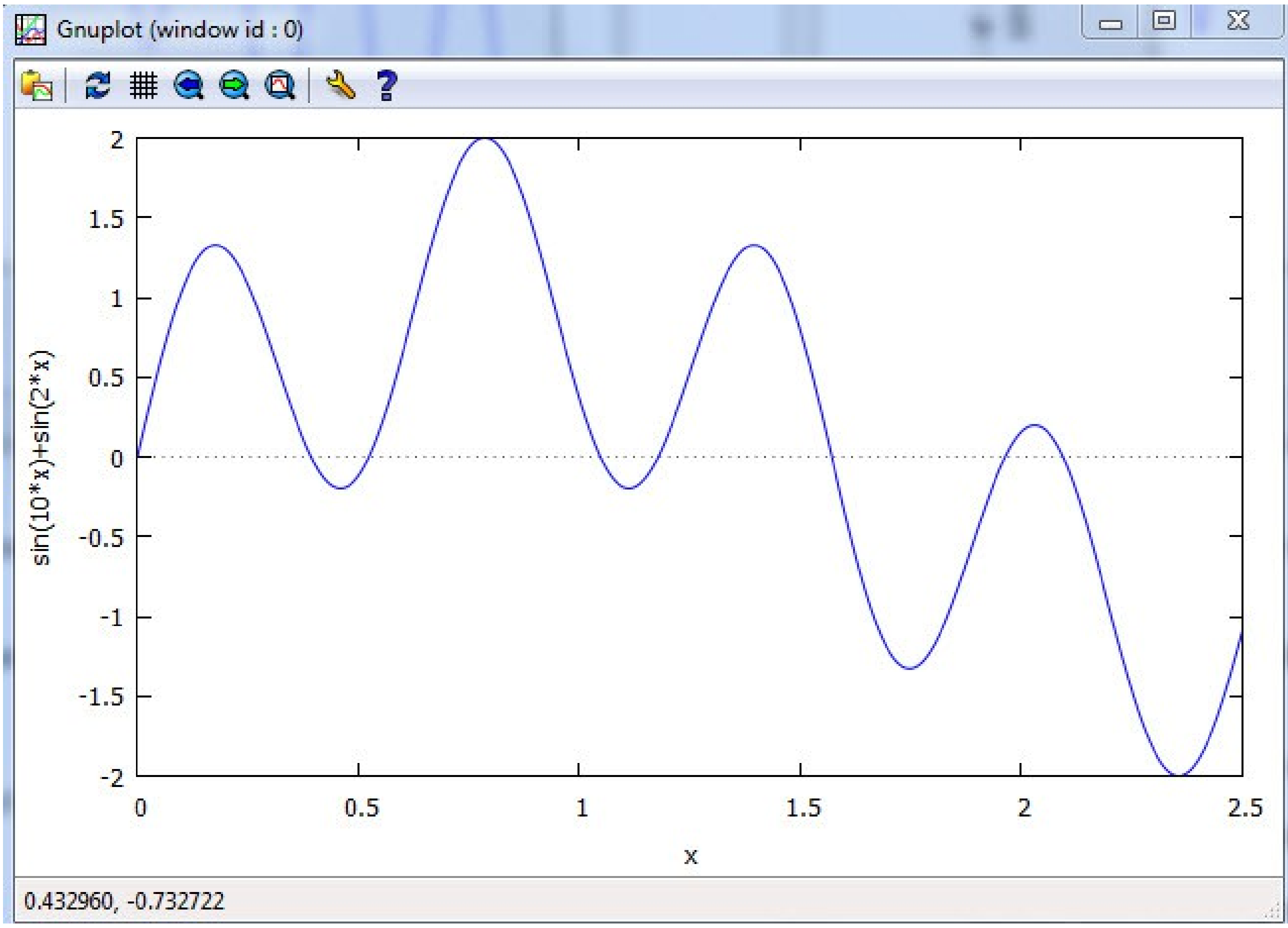
Hydrogen->helium halve the wave size in terms of its compression effect on helium 10*0.5 (mass 1:2)

Velocity is 2.5/c after collision.

Hydrogen->helius halves the wave size in terms of its compression on hydrogen 2*2.5 (mass 1:2)

Note the larger the wave, the more it compresses and vice versa.

plot2d(sin(2*x)+sin(10*x),[x,0.0,2.5]);



They are all carrying the same momentum so it's conserved but the arrangement of mass and velocity differ.

Velocity is 2.5/c after collision.

So the relates to moving at velocity 5/c

Interact with something that has twice the mass like helium we get 2.5/c

Interact with something that has half the mass then we get 10/c

plot2d(sin(0.5*x)+sin(10*x),[x,0.0,10.0]);

Bringing It Together

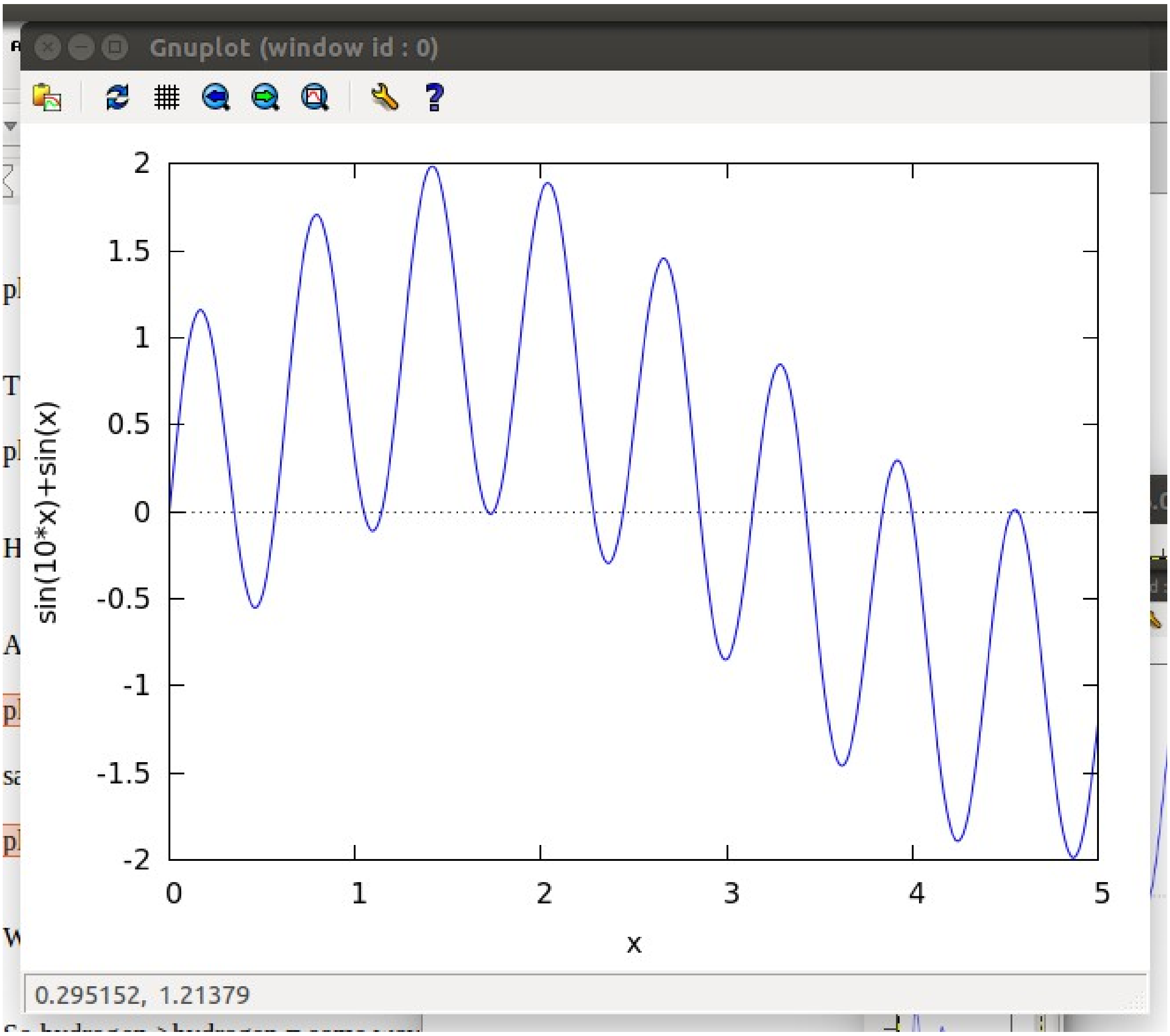
Note: The range is the velocity 2.5/c, 5.0/c, 10.0/c e.g. [x,0.0,5.0]

First sin wave carries the relative mass. 2”x is twice the relative mass. 0.5 is half the relative mass. e.g. sin(2*x)

plot2d(sin(2*x)+sin(10*x),[x,0.0,2.5]);

plot2d(sin(x)+sin(10*x),[x,0.0,5.0]);

plot2d(sin(0.5*x)+sin(10*x),[x,0.0,10.0]);



However total momentum is conserved.

We can see that this alters the wavelength of the Compression Waves which also relates to the Frequency of said waves.

Applications

Use Sound Waves with the Brady Carousel (See Applications Doc)

For the interested student.

Use sound waves to make the carousel water move upwards as it spins without having a physical barrier to achieve this effect

versus

Ferromagnetic fluid and magnetic field

Free Energy Experiment

According to the Pi-Space theory, a magnetic field line contains non-local magnetic waves which are constantly moving. Therefore if one can tap into this movement of non-local waves then one can generate so-called free energy. As these waves are smaller and constantly moving one must develop an apparatus to tap into this using local waves. Here is an attempt to do this.

Here, the idea is to hold the ball bearing in place with the magnetic field and then use it to keep the wheel spinning. Ideas like this were produced as far back as 1832. There are many ideas like this. The idea is to tap into the non-local magnetic field lines which produces a constant compression wave in the ball bearing. For this to really work, one would need a giant magnet and giant ball bearing and giant wheel. The axis of the wheel would need to be connected to a generator. The giant magnet needs to be an Earth style magnet for it to work as an Electromagnet would defeat the purpose. Typically however magnets do have an annoying habit of repositioning themselves to stop experiments like this working but the idea is well worth consideration. Non local waves do not like

to give up their energy to local ones. Here think of the magnetic field lines as also flowing North to South through the ball bearing while the wheel is turning.